

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 1-19 are presently active; Claims 1, 6-8, 11-14, and 16-17 having been amended, and Claims 18 and 19 having been added by way of the present amendment.

In the outstanding Office Action, Claims 1 and 6 were rejected under 35 U.S.C. § 102(b) as being anticipated by Yoshida et al (U.S. Pat. No. 6,255,201). Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Yoshida et al. Claims 2-5 and 8-17 were objected to for being dependent from a rejected base claim but were indicated as being allowable if rewritten in independent form to include the limitations of the base claim and any intervening claims.

Firstly, Applicants acknowledge with appreciation the indication of allowable subject matter in Claims 2-5 and 8-17. In order to expedite prosecution of the present application, Claim 8 has been rewritten in independent form to include the limitations of the respective base claims. Accordingly, it is respectfully submitted that independent Claim 8 and the claims dependent therefrom patentably define over the applied prior art.

Secondly, Applicants acknowledge with appreciation the courtesy of Examiner Estrada and Primary Examiner Fourson to interview this case on August 24, 2004 during which time the issues in the outstanding Office Action were discussed as substantially summarized below.

Regarding Claim 1, Claim 1 defines a method of manufacturing a semiconductor device that irradiates a coherent light onto a semiconductor such that the coherent light has a wavelength at which multi-phonon lattice absorption of the semiconductor occurs. Yoshida et al disclose a method for manufacturing a silicon-carbide semiconductor device. As explained

during the interview, Yoshida et al, while disclosing single phonon TO and LO absorptions in SiC, activate impurity atoms in SiC by employing a light having a longer wavelength than the wavelength that causes the band edge absorption, particularly, a light having such a wavelength that an absorption for a bond of an impurity element and an element composing a semiconductor is caused.¹ Furthermore, even if the teachings of TO and LO absorptions in Yoshida et al were considered irradiation teachings, these TO and LO modes are single phonon absorption events occurring in the polar SiC crystal. Such irradiation, as explained in the specification, does not constitute multi-phonon absorption, as occurs when light interacts with atoms of the semiconductor crystal in which two phonon modes are present for example the transverse optical (TO) and transverse acoustical (TA) shown in Applicants' Figure 23.² Therefore, Yoshida et al provide no disclosure or suggestion for irradiating coherent light onto a semiconductor at a wavelength at which *multi-phonon lattice absorption* occurs, as defined in Claims 1 and 7.

Hence, Claims 1 and 7 and the claims dependent therefrom are believed to patentably define over the applied prior art.

Finally, new Claims 18 and 19 have been added. Claim 18 depends from Claim 1 and defines that the semiconductor recited in Claim 1 is silicon. Claim 19 depends from Claim 1 and defines that the multi-phonon lattice absorption occurs from interaction of the coherent light and a plurality of phonons having different modes. Thus, for reasons similar to that of Claim 1, dependent Claims 18 and 19 are believed to patentably define over the applied prior art.

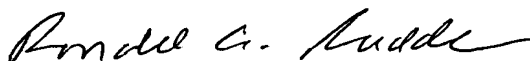
¹ Yoshida et al, col. 6, line 63, to col. 7, line 2.

² Specification, page 15, line 24, to page 16, line 21.

Consequently, in view of the present amendment and in light of the above discussions, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Gregory J. Maier
Attorney of Record
Registration No. 25,599
Ronald A. Rudder, Ph.D.
Registration No. 45,618

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 08/03)
GJM:RAR:clh
I:\ATTY\RAR\AMENDMENTS\239524US\AM.DOC